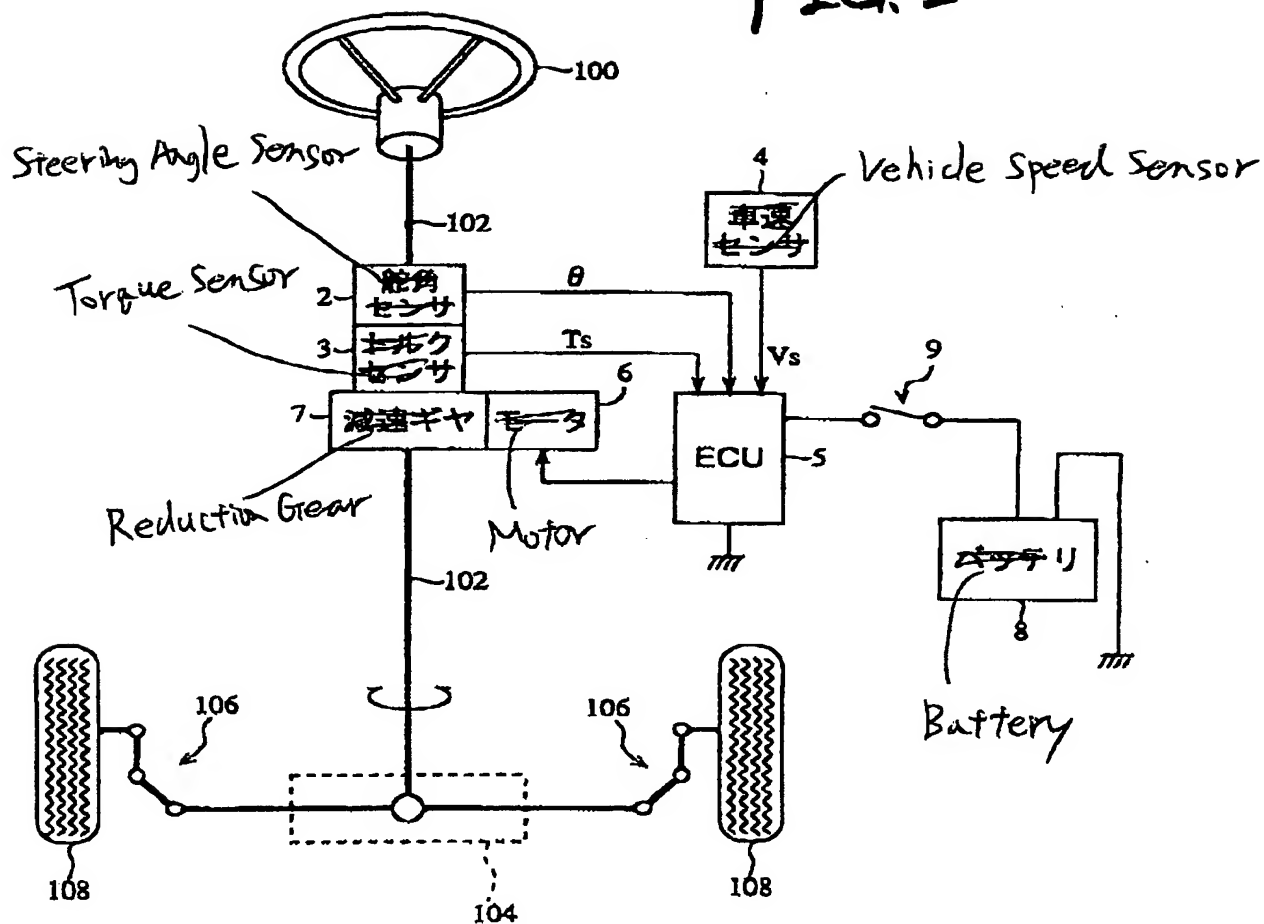


FIG. 1



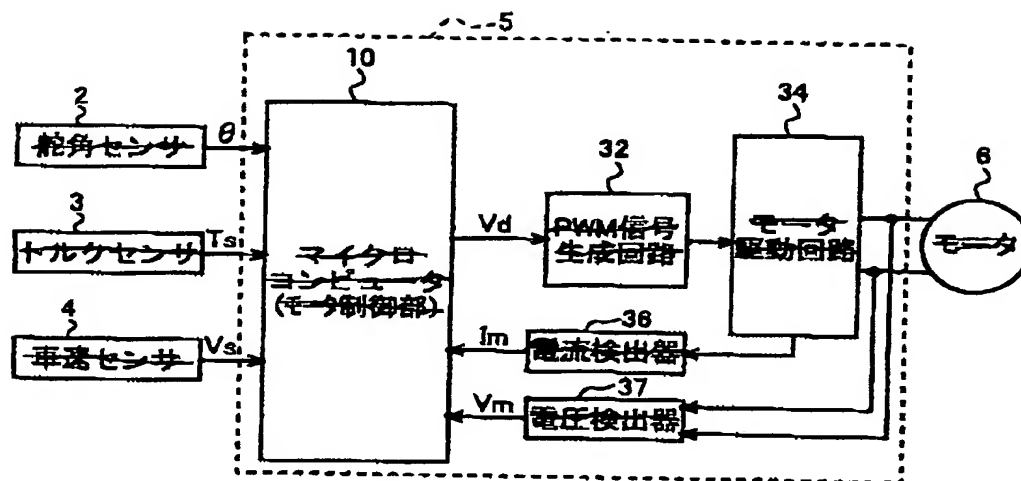
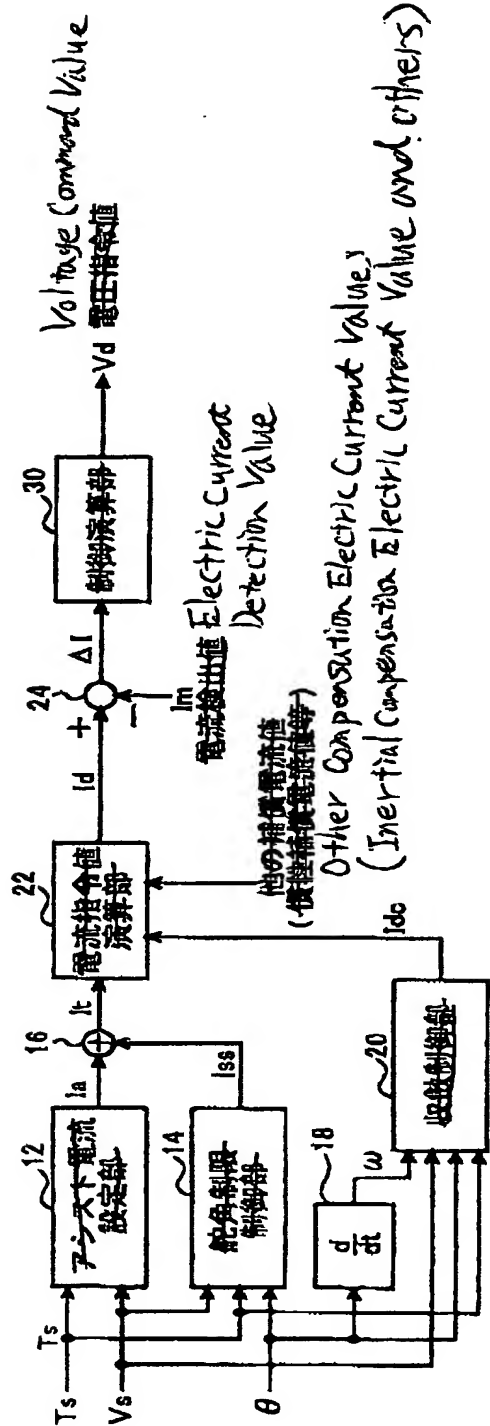


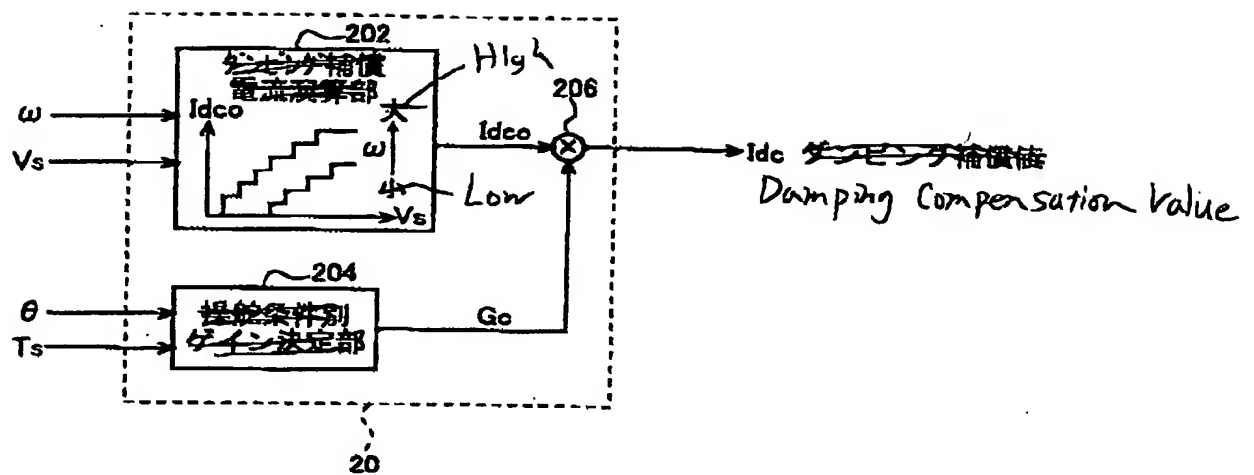
FIG. 2

- 2 Steering angle sensor
- 3 Torque sensor
- 4 Vehicle speed sensor
- 6 Motor
- 10 Microcomputer (Motor control section)
- 32 PWM signal generating circuit
- 34 Motor drive circuit
- 36 Electric current detector
- 37 Voltage detector

FIG. 3



- 12 Assisting electric current setting section
- 14 Steering angle restricting control section
- 20 Convergence control section
- 22 Electric current command value calculating section
- 30 Control calculating section



202 Damping compensation electric current calculating section

204 Gain deciding section for each steering condition

FIG. 4

Fig. 5A

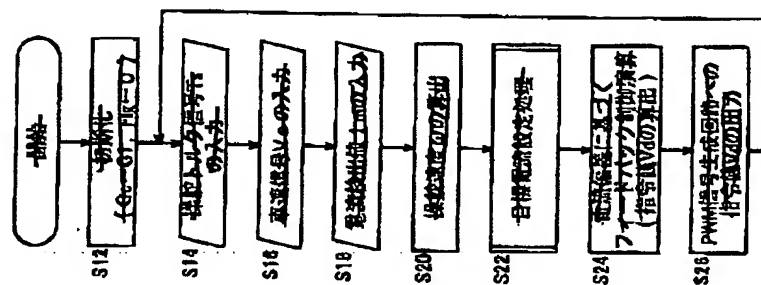


Fig. 5B

S22

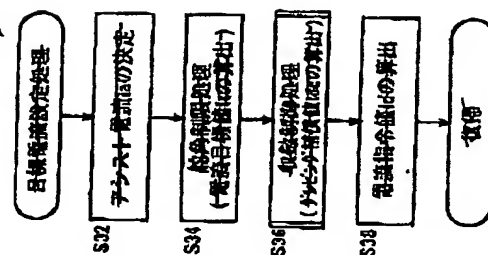


Fig. 5A

Start

S12 Initialization

(Gc ← 0, Flg ← 0)

S14 Input of steering torque signal Ts

S16 Input of vehicle speed signal Vs

S18 Input of electric current detecting value Im

S20 Calculation of steering speed ω

S22 Target electric current setting processing

S24 Feedback control calculation according to electric current deviation (Calculation of command value Id)

S26 Output of command value Id to

PWM signal generating circuit

Fig. 5B

Target electric current setting processing

S32 Decision of assisting electric current Ia

S34 Steering angle restricting processing (Calculation of electric current target value It)

S36 Convergence control processing (Calculation of damping compensation value Idc)

S38 Calculation of electric current command value Id

Return

Fig. 6A

Fig. 6B

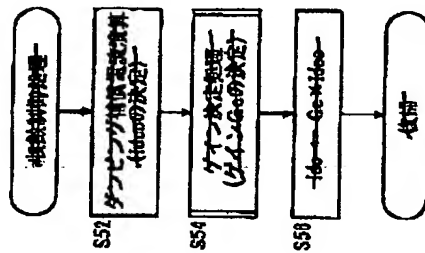


Fig. 6A

Convergence control processing
 S52 Damping compensation electric current calculation (Decision of Idco)
 S54 Gain deciding processing (Decision of gain Gc)
 S56 $I_{ds} \leftarrow G_c \times I_{dco}$
 Return

Fig. 6B

Gain-deciding processing

S62 Has steering angle quantity $|\theta|$ increased from neutral point?
 S64 Start timer
 S66 Flg ← 1
 S68 $T_s > T_{s0}$?
 S70 Flg ← 0
 S72 Has steering angle quantity $|\theta|$ decreased?
 S74 Timer value $T_m \leq T_{m0}$?
 S76 Flg = 1?
 S78 $G_c \leftarrow G2$
 S80 $G_c \leftarrow G1$
 Return

